

# Beyond Human-Centered AI: An Indigenous Framework for Planetary Futures

*By Suhair Kahn*



Image credit: terence b, <https://www.pexels.com/photo/women-and-men-in-traditional-clothing-crouching-in-performance-19347243/>

Technology entrepreneur and creative leader, Suhair Khan, explores the concept of Indigenous knowledge in relation to AI and planetary futures, and outlines why she agrees with National Geographic Explorer Keolu Fox that the key to harnessing the technology of

tomorrow is centering traditions of the past and that ‘We should all ask, what would our planet look like in Indigenous hands?’<sup>1</sup>

The emergent space of Indigenous AI presents the possibility of ‘an alternative reality’ to the technology sectors’ ultra-capitalist model. Extractive capitalism is not an inevitability in AI, particularly if we can support new models in which ‘Indigenous perspectives on relationships to land, sea, sky, and cosmos are the guiding force.’<sup>2</sup> and many universal principles for both AI and for planetary protection can be gleaned from this important ongoing work.

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## Diversifying AI

Indigenous, aka 'traditional' knowledge, intertwined with cultural and social practice and Indigenous language, includes know-how, practices, skills and innovations rooted in a deep connection to nature and the environment.

The Indigenous AI narrative has received much attention in recent years, and the proliferation of the conversation is both overdue and very welcome. From the outside (and to be clear, I am writing this piece as an outsider!), the Indigenous AI community seems interconnected and closely

AI is known to be linear in its cultural references, but there is a newness in the discourse around AI's exclusion of Indigenous voices risking colonial history repeating itself.<sup>3</sup> A comprehensive UNESCO report in 2023 argued that for AI to truly respect human rights, it must incorporate the perspectives of Indigenous communities.<sup>4</sup> While a 2020 Position Paper on Indigenous Protocol and Artificial Intelligence involved diverse Indigenous communities and offered a multi-layered discussion on new conceptual and practical approaches to building the next generation of AI systems.<sup>5</sup>

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knit, with a small number of prominent voices. We need to diversify, bring in wisdom from outside the predominantly English language and secular AI landscape, and embrace Indigenous cultures' symbiotic existence with the natural world if Indigenous AI is to be a meaningful area of mainstream practice.

## Human rights-respecting AI

Within the new colonial world order being created by AI, 'Indigenous epistemologies (or theories of knowledge) provide frameworks for understanding how technology can be developed in ways that integrate it into existing ways of life, support the flourishing of future generations, and are optimised for abundance rather than scarcity.<sup>2</sup>

## Consent of communities

There are various examples of where so-called new technologies relating to the usage of natural materials have been the domain of Indigenous communities for years prior. Indigenous communities in Canada and the United States were prototyping their own myco-textiles a century before Stella McCartney debuted a line of fungal leather handbags. While this is uncharted territory in terms of ethical frameworks, we are starting to see positive examples of meaningful collaboration.

A series of co-created artworks developed by digital artist Refik Anadol and the Brazilian Indigenous Yawanawa community aimed to reflect the tribe's culture and the importance of the native rainforest, while simultaneously highlighting the value of technologies like

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blockchain and NFTs in preserving and uplifting Indigenous modes and models of environmental protection and sustainability.<sup>6,7</sup> This collaboration aims to expand into a new platform to facilitate the preservation of Indigenous languages around the world.

Importantly, Anadol had the support of the Yawanawa elders, with Chief Nixiwaka Yawanawá saying, *'This partnership that we are building with Refik is directly for our communities. It strengthens our village, it strengthens our culture, it strengthens our spirituality, it gives us strength to defend, to protect our forest'*. While Anadol said of the project, *'We need collective wisdom. And if you think about collective wisdom, you will need ancestral wisdom. At some level, it's more educational and inspiring – hearing the Yawanawá's voices and how we are evolving and bringing their perspective to the dialogue is the most fundamental part of the project'*.

### **Informing decentralised AI**

The question of how we can highlight design possibilities for AI development through principles of decentralisation via Indigenous values and collective wisdom is an important one, and learning for AI based on Indigenous community or pod-led approaches can be very instructive. For example, the Abundant

Intelligence multi-year international collaboration between stakeholders from Canada and Aoetera explores how to conceptualise and design AI based on Indigenous knowledge systems, allowing participants to 'imagine, design, and prototype new computational practices in tight collaboration with their local Indigenous communities.'<sup>8</sup>

### **Protecting and documenting AI Preservation of endangered languages and cultures**

*'While the internet and AI have contributed to the decline by reinforcing the use of English and other dominant languages [to power search and other timesaving tools], they also offer the potential for a renaissance. With enough linguistic data, Large Language Models (LLMs) could be used to document the world's threatened languages.'*<sup>9</sup>

Initiatives around the world are now using AI to preserve endangered languages. One IBM initiative sees researchers working with Indigenous people in Brazil to develop AI-powered writing tools to strengthen languages at severe risk of decline. Meta's auto-translate tools now extend to Dari, Samoan and Tswana.<sup>9</sup> The Endangered Languages Project uses AI to collect and digitise audio recordings of endangered languages,<sup>10</sup> and Te Hiku Media is developing automatic speech recognition (ASR)



models for te reo, a Polynesian language. While a recently announced partnership between [Camb.AI](#), and Seeing Red Media (an Indigenous-owned media company based on Six Nations of the Grand River) aims to leverage Cam.ai's text-to-speech technology to develop the first-ever Native Indigenous language and speech model.<sup>11</sup>

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While these efforts are generally welcomed, it is worth considering the point made by Shakhnoza Sharofova in their 2023 article *'The Impact of AI on Endangered Languages: Can Technology Save or Kill?'* who points out that incorporating AI in language preservation 'introduces a complex terrain marked by concerns of cultural appropriation, representation biases, and the exacerbation of existing digital divides.'<sup>12</sup>

### AI and the art/craft of Indigenous culture

As a co-creator, AI presents wonderful opportunities to those makers of Indigenous art and craft who are both interested in and able to engage with it; in many cases supporting the process of research, design and ideation. Certainly, new technologies (consider the pottery wheel) have provided opportunities for crafts to evolve in the past, but AI is different and, in the case of Indigenous art, could be a means of wiping out culture and practice and of perpetuating bias, stereotype and exploitation.<sup>13</sup>

Most digital technologies pose a risk to the future of all crafts. In the case of Indigenous art, the spiritual connection to earth, sea and heart pose an additional element of vulnerability. Generative AI presents challenges for the arts and media community globally, anyway,<sup>14</sup> but has special implications for already-vulnerable Aboriginal art.<sup>15</sup> Sacred artworks are being

appropriated (and therefore destroyed) to create AI artworks for sale on digital platforms,<sup>16</sup> and AI-generated images of Aboriginal paintings and/or individuals are being used to promote everything from panel discussions to government-funded Mining and Skills Alliance campaigns.

All art draws on an artist's inspiration and lived experience. With Aboriginal art, artists draw on



deeper layers to create and present work, which is as much about process as outcome. Consider the artwork of Australia's Bay Gallery, where artists channel dreamtime stories and their connection to the Country in creating works.<sup>15</sup> Is there a chance this could be digitised and uploaded into an algorithm...? The short answer is, 'no way'.<sup>17</sup>

AI's potential as a tool for Indigenous sovereignty and knowledge transmission does offer a beacon of hope for the future<sup>18</sup> Indigenous craft and process can provide us with useful tools and – by centering Indigenous crafts, methodologies, voices and values – we can challenge the colonial legacies that exist in the AI sector and continuously work towards a more equitable and inclusive future for all.

### Author bio



**Suhair Khan** is a technologist, design activist and thought leader in culture and innovation. She is the founder of open-ended design, a platform and incubator for ideas and projects at the intersection of technology and creativity. In over a decade at Google and Google Arts & Culture, Suhair led initiatives which merged cutting-edge technologies with arts, design, culture, education and environmental sustainability. She sits on the board of trustees for the Design Museum, Sadler's Wells, Studio Wayne McGregor and the advisory committee of the British Library. She is a lecturer in the Master of Architecture program at Central Saint Martins.

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#### **Links:**

1. [‘Indigenous Knowledge Helps Heal our Planet’](#)
2. [Traditional knowledge](#)
3. [‘Shaping the Future: Indigenous Voices Reshaping Artificial Intelligence in Latin America’](#)
4. [FungalTopia –proto.life](#)
5. [‘Decentralized AI will Play a Pivotal Role in Shaping the Future of AI’](#)
6. [Indigenous Research Subject Guides](#)
7. [‘As Forests are Cleared and Species Vanish, There’s One Other Loss: a World of Languages’](#)
8. [‘Preserving Indigenous languages with AI’](#)
9. [Te Hiku Media](#)